**Probability Final Project**

The purpose of this assignment is to demonstrate knowledge of probability management tools that you have studied, and well as your ability to analyze data.

Your task is to choose a specific problem or topic. This topic can be of interest to you, or you may wish to take a look at an environmental issue, a community issue, or a school issue. For this assignment, you will choose your presentation topic. For example, you may choose to do one of the following options:

* Create a survey about exercise and eating habits and administer the survey to your classmates and students outside of the class. Analyze the data to see if there are any trends and state probabilities.
* Analyze the probability and statistics that are involved in one of your favorite games, such as Bingo
* Obtain data from the website, and analyze the data to see if there are any trends and state probabilities.

Presentation must include:

* Organized data collected from surveys, from yourself (measurements, observations), or from other sources (e.g., electronic data from websites such as E-Stat or Census At Schools).
* A chart or a table
* At least one graph (e.g. histrogram, scatter plot, bar graph) that has appropriate titles, labels, and units
* A paragraph using probability to state conclusions.

Timeline: You will receive 2 periods to work on your project. iPads will be available for these periods.

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|  | **Level 1** | **Level 2** | **Level 3** | **Level 4** |
| **Understanding**  **the Math Concepts** | I understand a bit of the math I need for this problem.  I can’t explain very much of my understanding. | I have some understanding of the math I need for this problem.  I can show and explain some of my understanding. | I have a clear understanding of the math I need for this problem.  I can show and explain my complete understanding. | I have an extensive understanding of the math I need for this problem.  I can show and explain my expert understanding. |
| **Application**  of Mathematical Processes | With help I can use part of the math required for this problem.  I might have part of a solution. | I can use most of the math required for this problem.  I might need a little help remembering some of the steps.  I have a solution. | I can use the math required for this problem.  I make some little errors.  I have a complete solution. | I can use all of the math required for this problem accurately.  I can prove it by doing it another way.    I have a complete and detailed solution. |
| **Think about and**  **Solve Problems** | I am not sure I understand the problem. I will need help to figure out how to solve it. | I understand some parts of the problem.  I think I have a strategy to solve the problem. | I understand the problem  I have an appropriate strategy to solve the problem. | I have a complete understanding of the problem.  I have several appropriate strategies to solve the problem and I can check my solution using a different strategy. |
| **Communicate**  using Mathematical Language | My descriptions give the reader just a basic idea of my thinking.  I use one way to try to explain some of my thinking. | My descriptions give the reader a general idea of my thinking.  I use some ways to try to explain some of my thinking.  I might use a diagram, a table, or a model, and some words and numbers. | My descriptions give the reader a clear idea of my thinking.  I use a variety of ways to explain my thinking, including diagrams, tables, models, words and numbers. | My descriptions give the reader a precise and thorough idea of my thinking.  I use a variety of ways to justify and extend my thinking, including diagrams, tables, model, words and numbers. |